

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TopBP1 in direct ELISAs.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human TopBP1 Met88-Asp194 Accession # Q92547
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

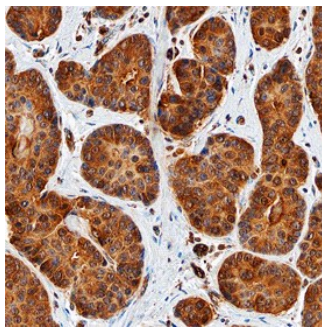
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



TopBP1 in Human Breast. TopBP1 was detected in immersion fixed paraffin-embedded sections of human breast using Sheep Anti-Human TopBP1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7120) at 3 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to epithelial cells. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

TopBP1 (DNA topoisomerase 2-binding protein 1) is a 175-180 kDa member of a critical DNA replication repair complex. It is widely expressed, and appears to serve as an intermediary in DNA replication. When a replication fork is stalled during S phase, DNA continues to unwind ahead of the stall. This becomes associated with RPA, which is essential for ATR and subsequent Chk1 activation. TopBP1 is key to ATR activation, and appears to first bind to DNA:pol-α, followed by a 9-1-1 complex and Rad17 interaction that leads to ATR stimulation. Human TopBP1 is 1522 amino acids (aa) in length. It contains eight BRCT domains (aa 101-1486) that interact with distinct binding partners. BRCT1 and 2 binds to Rad9 (aa 101-294), while BRCT 6 and 7 are involved in ATR activation. There are 12 utilized phosphorylation sites and two nuclear localization signals. Three isoform variants have been described. One contains an alternative start site at Met88, a second shows an 18 aa substitution for aa 1198-1522, and a third possesses a six aa substitution for aa 1292-1522. Over aa 88-194, human TopBP1 shares 88% aa identity with mouse TopBP1.